



## Mobile phone usage and device selection of university students

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*Nowadays, what can be identified as info-communication age, the mobile phone became a determinant technical device in life. I studied the mobile device selection criteria and usage habits of university students with a non-representative research. The results show that the price, look and shape of the device are more important than the available applications or brand. Technical parameters have more importance, like good battery and durability. Mobile phones have determinant importance for the young, and they rather use it more in public situations or places, than in private ones. The time-management applications are used more often than other information based ones. They use clock, alarm clock and calendar most often, while sound recorder and Internet are used most rarely.*

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### 1 Short literature review

The 21<sup>st</sup> century can be interpreted as info-communication age. When new communication technologies spread among the people. One of them is the mobile communication. I think how we choose a mobile device is an interesting question, which parameters are important in the decision, and which are not. How we use the new technologies in every day life, when and for what we use it. Because in my opinion the technological development and the usage habits are interdependent.

I would like to examine consumer behaviour in the field of mobile phone, so I think we should consider the mobile marketing as well. The penetration of mobile phones was explosive in the developed countries, and operators are always searching for new services to generate further demand. For example, the SMS become a great market success. In view of this exceptional development, the advertising industry is becoming increasingly interested in using the mobile phone as a medium for communicating commercial content (Bauer et al, 2005). Although the users' attitudes can be negative about receiving mobile ads, because they can found irritating this adds. This negative affect can be reduces by permission and entertainment (Tsang et al, 2004). US consumers seem to willingness to accept m-advertising to subsidise the

cost of other mobile services. Leppäniemi and Karjaluoto (2005) found that the four key factors of acceptance are choice (m-advertising should allow users to decide whether or not to receive messages), control (users could bypass sales messages easily), customisation (users should be able to filter the messages received) and mutual benefit (users want to get something back).

The creative, customer-oriented concept of mobile marketing campaign could pave the way to the benefit of any available target groups. The main focus area of technology push and market pull strength. Users must learn new technology, and these new technologies can give new impulse to growing demand of new innovative concepts, and exploring the possibilities. The success is reached, when benefits outweigh the costs. The benefit may be increased if the mobile marketing campaign promises more fun, more information to all target groups and tailoring the messages. Another way is to reduce costs and reduce the loss of time, for example reduction of the connection cost. The simplest solution is sometimes the most successful, such as SMS. Costs should be clear and transparent for the users (Nagy, 2005).

The rapid spread of mobile communication throughout the population over the past 10 years should be recognized. The superficial knowledge of mobile communication seen before the millennium, became an in-depth knowledge about it in Hungary (Kozák, 2002). For example in a Hungarian research the mobile phone is used as an indicator of consumer values in that time (Neulinger, 2001), and it is worth to mention that, in this time even the kindergarten children were also able to clearly describe mobile phone as an object (Hofmeister, Malota 2000).

Only a few years later, a research has shown that the mobile is expression of personality and a topic of talk for 18-25 year-olds, and they must know outside the parameters of models (Heszler, 2004). Teenage users especially like to express their individuality by personalizing their mobile phone. They are choosing a particular brand, colour, size, or display logo and ring tone. They continuously carry their mobile phone within reach and regard it as status symbol and an important part of their daily lives. For adults the mobile phone has likewise grown to become a highly personal utensil. They also individualize their mobile phone by saving contacts, messages and important dates (Bauer et al, 2005). Another research suggests that young people's relationship to the mobile phone is consistent with their general consumption styles. Moreover we can separate female and male styles. The female style was an "addictive" use of the phone, and it was related to "trendy" and "impulsive" consumption styles. The male style was characterized by technology enthusiasm and trend-consciousness, and it was linked to impulsive consumption and "hard" values (Wilska, 2003).

In Hungary Nokia led awareness index, and Samsung has the second place, in particular the girls like it. Siemens was also significant at that time, which has since withdrawn from the Hungarian market. Mobile has an important role in the life of young adults and among college students the mobile phone has full penetration, but two-thirds of 10-12 year-olds also have this device, part their parents or their own expense (Szántó, 2005). The mobile became the most popular product category,

beside sportswear, and it appears as a status symbol, an essential need and an icon of independence within the 11-12 age group (Horvath, 2004). The mobile phone still remains a status symbol for the children, and the two most important attributes are the minutes on the card and the number of games in device. The boys typically use it for phone calls, SMS writing and play games. Moreover, they organise meetings during lessons (Szerepi, 2008).

According to the results of a Hungarian research in 2006, the e-mail is good for the transmission of news, or getting contact with a stranger, whereas mobile communication device is most suitable for rapid orientation, and to fix an appointment. The mobile phone stimulates personal meetings, rather than virtualises the relationships. They meet weekly with people in the real world: their families, relatives, and friends. Mobile phones are most frequently used for phone calls, text messaging, alarm and check the calendar. But a significant proportion of young people never use the sound recorder, e-mail, camera, Internet, games, MMS, radio, roaming, WAP, or listen music (Kollár, 2007). A previous American study also suggests that college students use the devices for a variety of purposes. Mobile helps them feel safe, use it for financial benefits or to manage time efficiently, and it helps to keep in touch with friends and family members (Aoki and Downes, 2003).

Global consumer trends achieve a rapid breakthrough among the young urban consumers. It is very important for young adults to be accessible anywhere and anytime, because the home of them is the place, where they live. 96% of them have mobile phones and a minority of them also use advanced features, like to listen music (26%), or download ringtones (23%). A higher percent of them use instant messaging, radio or Internet via mobile (GfK-Hungary, 2008).

## **2 The research**

My research took place in May 2009, and I used an online inquiry form. The respondents were students of the Corvinus University of Budapest, and the most of them were first-year university student in business administration. In my database 642 questionnaires proved to be appreciable. And I examined connections between the results in the significance level 1%. The sex distribution of 642 respondents is 270 men and 372 women. The age varies between 18 and 28 years, but it is important to note that only 10 respondents were over the age of 23. The most frequent values are 19 and 20 years with 301 and 196 people. The average age is 19.8 years.

## **3 Device selection**

I asked the respondents to rank four main categories of the mobile device selection. These four categories are price, available features, look, shape and brand.

Table 1.  
Device selection ranking of the respondents

	1. place	2. place	3. place	4. place
Price	26,4%	36,8%	24,8%	12,0%
Look, shape	29,8%	26,1%	25,3%	18,9%
Available applications	23,2%	29,2%	26,5%	21,1%
Brand	20,3%	21,5%	27,1%	31,0%

Source: own calculations

The results show the importance of look and shape, because this feature gets the most first rank in the sample, but the price is also very important. When I examine the first and second ranks together, the results show, that the price gets the most votes. The importance of price is also can be achieved in the number of last rank. The least of the young respondents ranked the price to least important feature. The available applications were less important in this sample, and the brand was the least important. So the results show that the respondents want to the lowest price with good appearance.

Correlation is found to be significant between the price of device, the monthly mobile communication cost, and the rank of price and the rank of appearance. These means the higher amount of money is spend to mobile, the more important the price and the appearance. Women prefer more the appearance, and rank lower the more applications.

After this ranking, the next group of questions was a list of properties according to mobile device. The respondents had to consider how important are each listed aspect for them. They should have rating in a Likert scale, where the meanings were 1 = no importance, 2 = little importance, 3 = medium importance, 4 = quite importance, 5 = high importance has an aspect.

Table 2.  
Importance of device features

Importance:	no	little	medium	quite	high
Durability, massive device	0,8%	3,1%	14,6%	39,9%	41,6%
Good battery	0,6%	1,9%	6,1%	30,2%	61,2%
Ease of use	1,6%	7,5%	22,2%	38,5%	30,3%
Small	5,0%	19,2%	33,6%	27,3%	15,0%
Light	7,8%	20,3%	30,4%	26,1%	15,4%
Beauty	2,7%	6,4%	17,2%	37,0%	36,7%
More applications	4,2%	14,4%	26,5%	30,0%	25,0%

Source: own calculations

The phone's durability got an average 4.18, while the good battery got the highest average, with value of 4.5. The other technical parameters got lower average values,

like ease of use with 3.88 or more applications with 3.57. The results show that the technical parameters are usually quite important for the young. While the parameters of device appearance got lower values, like small (3.28) or light (3.21) device. So fashion is less important for the respondents, than technical capabilities. Expect the beauty (3.99), which is also quite important.

Correlations showed, that usually the more expensive the device was, and the more importance has the device in the respondent's life, the different aspects of the mobile become more important. Women evaluated more important, that a mobile phone should be small, light and beauty. So the appearance of a device is more important for women. While among men the more applications in a device has higher importance.

#### 4 Usage of mobile phone device

The next major issue is the usage of mobile phones, when and for what the young people use their mobile phones. The importance of mobile phone got an average 8.06 in a 1-10 point scale. 1 means no importance at all, and 10 identified as essential need. The median value is 8 and the standard deviation is 1.686. 23.5% of the respondents answered value 10. These results show that the mobile device is very important in every day life for the participants of this study. Most of them (48.2%) preferred talking against SMS usage (6.6%). The remaining 45.2% of the respondents use approximately equally these applications, but a shift can be perceived towards voice-based usage, which has characterized phone communication for long time.

The respondents should have evaluated their frequency of mobile usage in different situations. The Likert scale contains the following categories of frequency: 1 = never, 2 = rarely, 3 = variable, 4 = often and 5 = always. The base of the list of examined areas and situations was a previous Hungarian research (see Kovacs et al), which studied the mobile usage of university student few years after the millennium.

Table 3.  
Device usage of respondents

	never	rarely	changing	often	always
In toilet	47,2%	33,5%	10,0%	7,2%	2,2%
In bathroom	27,3%	46,7%	16,5%	8,3%	1,2%
Having meal	21,1%	39,9%	25,6%	21,4%	2,0%
During driving	52,3%	22,0%	14,6%	8,9%	2,2%
In meetings	9,5%	34,3%	35,7%	17,9%	2,6%
During lessons	13,7%	46,7%	26,6%	10,6%	2,3%
In workplace	13,1%	24,8%	30,6%	23,6%	8,0%
In restaurant	8,9%	32,0%	35,6%	20,6%	3,0%

Source: own calculations

The majority of respondents do not use the mobile phone really private place, like toilet or bathroom. Moreover the toilet proved to be the rarest location of use among the questioned elements, which is significantly less common for women. But at the

same time it is worth note here, that we can find in these locations also a small number of individuals, who use the device often or always.

The second rarest situation of usage is when somebody is driving. The usage in hand during driving is prohibited according to the Hungarian Highway Code. The most numerous non-users can be found in this situation. Rare usage is also essentially dominative among respondents in classroom during a lesson. It is likely the result of prohibiting attitude of institutions, but mobile phones are also used in this situation by a limited amount of students.

Public space is much more prevalent, where the respondents use mobile phones. The usage of devices reached higher frequency values encountered meetings, restaurant, or workplace. The highest level of usage can be found during meetings among the studied fields. The majority of respondents admit only a rare degree of usage when they are having meals, while the restaurant is a more frequent field with higher average usage. In public space the frequency of use is higher, but only a small minority use always their mobile in each situations, what this research contained.

The factor analysis carried out ( $KMO = 0.762$  shows it's acceptability) the separation of private and public situations. In this segmentation driving belongs to factor of the private situations, while "during lessons" belongs to the public one. Correlation tests show that the duration of mobile phone posses has weak positive relationship with the different situations and places. It means that the more time you have a mobile phone, the more likely to use it in different situations.

## 5 Usage of mobile phone applications

Another aspect of usage: which applications are used, and how frequent they are used in a mobile device. Respondents got another Likert scale to evaluate their usage, where the meanings were 1 = never, 2 = rarely, 3 = varying, 4 = often, 5 = daily.

Table 4.  
Application usage of respondents

	never	rarely	varying	often	daily
Watch	0,2%	3,0%	3,3%	9,7%	84,0%
Alarm	1,1%	3,9%	2,8%	9,0%	83,2%
Calendar	3,6%	11,4%	19,5%	33,6%	31,9%
Organizer	26,1%	23,2%	19,6%	17,2%	13,9%
Camera	8,6%	30,8%	32,6%	21,3%	6,7%
Sound recorder	61,5%	29,4%	6,7%	1,6%	0,8%
Game	35,4%	34,6%	16%	10,3%	3,8%
Data transmission	14,5%	23,8%	32,9%	23,8%	5,0%
Music playback	22,8%	17,3%	17,8%	20,3%	21,8%
Internet	64,3%	15,2%	7,8%	7,0%	5,6%

Source: own calculations

The clock and the alarm are daily used by the great majority of the respondents, so these applications became essential requirement in mobile phones. The calendar is also used very frequent, because the majority use it often at least, but many students use it every day. So calendar is also an essential application. The mobile phone has connection with, because the respondents check the time in the phone, either hours or day, weeks, months should be checked.

Although the mobile phone is a sound-based technical device, I found that the respondents use the camera more intensive than the sound recorder in my sample. But approximately the same intensive used mobile to listen music or make pictures. Among the sound-based applications the respondents prefer to listen music, but they do not record sounds with their devices. Moreover they make more likely a picture with it, so they prefer to save images rather than to save sounds.

In the sample the usage of organiser and data transmission is relatively balanced. A lot of people use it, but another amount of people do not, or only rarely use it. But the less frequent use is oriented towards games or Internet on mobile device. Sharing data is more characteristic way of getting information than downloading from the Internet. The use of games was significantly higher among men, and they more likely to use Internet in their mobile phones, too.

The factor analysis of mobile applications ( $KMO = 0.710$  shows it's acceptability) presents two factors. One of these is the factor of time-management, which contains the clock, alarm clock, calendar and organizer. The other applications belong to the other factor, which could be named as information-management, because these applications manage sounds, images, or data. Based on these results we can separate time or information based applications in a mobile device. Correlation tests show, that the most of the applications have connection with the price and the importance of device. Young likely to use more often the applications in the case the higher price of mobile phone had, and the more important the mobile thought to be in their lives.

## 6 Conclusions, suggestions

Today the mobile phone has become an important technical device according to this study. The university students prefer to choose their phone by good price, look and shape. The brand and the available applications are less important. The most important features of the mobile phones are technical parameters, like good battery or durability of the device. Beauty is the most important feature among appearance parameters. So the device manufacturer should make good battery, durable and beauty device to satisfy the young's needs.

The devices are more frequently used in public places, and because of this result, in my view, commercials and advertisements should also use these situations as plots. However, some people even use their devices in very private situations and places in every day life, so new possible applications and features can be introduced into the mobile market. For instance waterproof device, which can be used in the bathroom, or create some educational applications and services, and apply the device in classroom

for study. Special devices and contains can be targeted to those young people, who use often their mobile in non-typical places.

The expectations about mobile applications are varying, like in the cases of other products. An application, which differentiates a device from the competitors today, can become an expected application in the future. According to the results, the time management applications became essential. I suggest some new community related applications, which can be used together by the people. Create more effective and satisfactory mobile usage in public areas and situations. Although the survey was non-representative, the results can point to important trends in the topic of device selection and usage.

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